ABSTRACT OF THE DISCLOSURE

Methods, software and systems to determine channel ownership and physical block location within the channel in non-uniformly distributed DRAM configurations and also to detect in-range memory address matches are presented. A first method, which may also be implemented in software and/or hardware, allocates memory non-uniformly between a number of memory channels, determines a selected memory channel from the memory channels for a program address, and maps the program address to a physical address within the selected memory channel. A second method, which may also be implemented in software and/or hardware, designates a range of memory to perform address matching, monitors memory accesses and when a memory access occurs with the specified range, perform a particular function.